QUESTION 6: Please report your internal standards for bit error rate and availability for each of the following services.

A. VOICE GRADE

CARRIER	BER	AVAILABILITY	ERROR-FREE SECONDS
Ameritech	N/A	N/A	N/A
Bell Atlantic	N/A	N/A	N/A
BellSouth	N/A	N/A	N/A
GTE	N/A	N/A	N/A
Nevada Bell	N/A	N/A	N/A
New England Telephone	N/A	N/A	N/A
New York Telephone	N/A	N/A	N/A
Pacific Bell	10^{-3} for one minute on DS1	N/A	N/A
Southwestern Bell	N/A	N/A	

QUESTION 6: Please report your internal standards for bit error rate and availability for each of the following services.

A. VOICE GRADE

CARRIER	BER	AVAILABILITY	ERROR-FREE SECONDS
Ameritech	N/A	N/A	N/A
Bell Atlantic	N/A	N/A	N/A
BellSouth	N/A	N/A	N/A
GTE	N/A	N/A	N/A
Nevada Bell	N/A	N/A	N/A
New England Telephone	N/A	N/A	N/A
New York Telephone	N/A	N/A	N/A
Pacific Bell	10^{-3} for one minute on DS1	N/A	N/A
Southwestern Bell	N/A	N/A	N/A
United	N/A	N/A	N/A
US West	N/A	98%	N/A

Notes:

1. The LECs prefer to report error-free seconds rather than bit error rate.

2. The LECs state that these criteria are inapplicable because voice grade is an analog service.

B. WIDEBAND DIGITAL

CARRIER	BER	Availability	Error-Free Seconds
Ameritech	Not offered		
Bell Atlantic	Not reported	Not specified	98.75
BellSouth	No standard	98.75	No standard
GTE	$1x10^{-9}$	99.925	No standard
Nevada Bell	Not offered		
New England Telephone	Not offered		
New York Telephone	Not offered		
Pacific Bell	No standard	No standard	No standard
Southwestern Bell	N/A	N/A	N/A
United	N/A	N/A	N/A
US West	No subscribers		

C. DDS

CARRIER	BER	Availability	Error-Free Seconds
Ameritech	References but does not disclose Bellcore document	No standard	Interstate: 99.875 Intrastate: 99.5
Bell Atlantic	No standard	>99.9% on an annual basis	99.875
BellSouth	No standard	No standard	InterLATA: 99.875 IntraLATA: 99.5
GTE	$1x10^{-7}$	99.925	No standard
Nevada Bell	No standard	99.78 over 15 minutes	99.875
New England Telephone	No standard	>99.96 over several years	99.875 for interLATA access 99.5 for intraLATA end-to-end
New York Telephone	No standard	>99.96 over several years	99.875 for interLATA access 99.5 for intraLATA end-to-end
Pacific Bell	No standard	99.96	Access: 99.875 Non-Access: 99.5
Southwestern Bell	No standard	99.875	99.875 over one month
United	$1x10^{-7}$	99.875	No standard
US West	No standard	99.9	99.875

D. DS1

CARRIER	BER	Availability	Error-Free Seconds
Ameritech	References but does not disclose Bellcore document	99.975% over 12 months	98.75% over 24 hours 99.975% over 12 months
Bell Atlantic	No standard	99.925% in 12 consecutive months	98.75
BellSouth	No standard	No standard	95 over 24 hours
GTE	$1x10^{-9}$	99.925	No standard
Nevada Bell	$1x10^{-9}$	99.925	98.75
New England Telephone	No standard	99.7 intraLATA 99.925 interLATA	95 over 24 hours for superpath℠; 98.75 interstate
New York Telephone	No standard	99.7 intraLATA 99.925 interLATA	95 over 24 hours for superpath℠; 98.75 interstate
Pacific Bell	$1.0x10^{-9}$	99.975	99.85
Southwestern Bell	No standard	99.975 over 3 months	99.75 over 24 hours (98.75 for some locations)
United	$1x10^{-7}$	99.925	No standard
US West	Copper: $1x10^{-6}$ Fiber $1X10^{-9}$	99.7 Self-healing: 99.985	98.75

E. DS3

CARRIER	BER	AVAILABILITY	ERROR-FREE SECONDS
Ameritech	References but does not disclose Bellcore document	99.975% over 12 months	99.0% over 24 hours 99.975% over 12 months
Bell Atlantic	No standard	Under development	≥ 99%
BellSouth	No standard	99.925% over 12 months	99.9 over 24 hours
GTE	$1x10^{-10}$	Not reported	No standard
Nevada Bell	$1x10^{-9}$	Not finalized	Not finalized
New England Telephone	No standard	99.925 over 12 months.	99.0 over 24 hours
New York Telephone	No standard	99.925 over 12 months	99.0 interstate; 98.0 in NY if end-to-end fiber
Pacific Bell	$1.0x10^{-9}$	99.975	99.5
Southwestern Bell	No standard	99.975 over 3 months	99.9 for new facilities, 99.0 for others
United	$1x10^{-7}$	99.925	No standard
US West	$1x10^{-9}$	99.98 Self-healing: 99.985	99

Question 7: Please report your internal standard(s) for trunk blockage.

Ameritech	0.5% on common final trunk groups, 1% on others
Bell Atlantic	1% between end office and access tandem for FGB and FGC, 0.5% for FGD
BellSouth	FGD: 0.5% No more than 3% of trunk groups with valid data exceed serving threshold in one month; 2% in 2 consecutive months; 1% in three consecutive months
GTE	Design objective: 0.5% for equal access, 1.0% for others. No more than 1% of common trunk groups exceed objective for 3 months.
Nevada Bell	Design objective: 0.5% for 97% of trunks (FGD), 1% for remaining. No more than 1.4% of trunk groups per month can exceed tariffed levels that vary with number of transmission paths and days of valid data.
New England Telephone	1% design objective. Corrective action mandatory at >3%.
New York Telephone	1% design objective. Corrective action mandatory at >3%.
Pacific Bell	Design objectives: 0.5% for FGD trunk groups, 1% for others. Maintenance level varies by number of transmission paths and days of valid data.
Southwestern Bell	0.5% for equal areas, 1.0% for non-equal access. No more than 2% of common transport trunk groups may exceed threshold for 1 month; no more than 0.5% for 3 or more months.
United	Design objective: 1% Service standard: FGD: 2%; FGC: 3%

US West	End office to tandem: no more than 1.4% of trunk groups exceed 2% blockage. End office to end office: 1% blockage specified. Other: "no more than specified blocking limitation."

Question 8: Please report your internal standards for switch down-time for the following categories of switches: under 1000 lines; 1000-4999 lines; 5000-9999 lines; 10000-19999 lines; over 20000 lines.

Ameritech	98.5% for all categories (based on an index of switch performance)
Bell Atlantic	Not greater than 3 minutes per year for all categories
BellSouth	Not greater than 3 minutes per year for all categories
GTE	0.6 minutes per year per site for total system down time
Nevada Bell	Not greater than 3 minutes per year for all categories
New England Telephone	Not greater than 3 minutes per year for all categories
New York Telephone	Not greater than 3 minutes per year for all categories
Pacific Bell	Not greater than 3 minutes per year for all categories
Southwestern Bell	Not greater than 3 minutes per year for all categories
United	No standard disclosed; seeks to "ideally achieve zero minutes of unscheduled downtime"
US West	No loss of call processing in a central office for more than 2 minutes.

II. QUESTIONS REGARDING COMPLIANCE

Question 1: **What procedures do you use to collect information from individual wire centers regarding their compliance with your internal quality standards?**

1. Ameritech

Ameritech relies primarily on customer satisfaction surveys. It also gathers data through operation support systems and mechanized service order and service provisioning systems. The unit at which performance is tracked varies; it may be wire centers, installation districts, repair service bureaus, or customer service centers.

2. Bell Atlantic

Bell Atlantic does not generally summarize for management purposes its compliance with internal quality standards at the wire center level, except for trunk blockage and switch downtime. Nonetheless, its Network Switch Performance Plan generates end office specific data, as do other trunk-plants, and switch-related mechanized systems.

3. BellSouth

BellSouth uses various mechanized systems, as well as manual reports, to track service quality. For most criteria, data are analyzed at the District level, which contains 20 to 80 wire centers, depending upon population density. Trunk blockage and switch downtime are examined for each central office.

4. GTE

GTE tracks complaints on a region, rather than wire center level. Information regarding exchange service installation and repairs for each exchange is resident in several data bases, and information regarding installation and repair of "special services" is tracked at the Special Service Control Center level. Transmission quality is tracked by mechanized systems for switched services, and GTE has systems in some wire centers for monitoring and testing of non-switched services. Measurement of data transmission quality is done only in response to service calls because current equipment cannot perform routine testing without affecting service availability. Trunk blockage and switch down-time are tracked on a central office basis.

5. Nevada Bell

Nevada Bell has one centralized Maintenance/Installation Center for its entire serving area. It uses various mechanized systems to collect performance data, and also relies on customer satisfaction surveys.

6. NYNEX Companies

New York Telephone and New England Telephone use both mechanized processes and customer satisfaction surveys to track service results "down to an individual central office switch or group of switches within a local, regional or administrative area."

7. Pacific Bell

Pacific Bell collects data at the wire center level for residential installation and repair, trunk blockage, and switch down-time. Data is aggregated for multiple wire centers for installation and repair of all non-residential services. Wire center data "currently is not available" for the transmission quality data listed in Section I, questions 4-6, but will be available for selected offices in 1992 for DS1 and higher speed services. The majority of data is collected through mechanized means on a daily or weekly basis and summarized in periodic reports.

8. Southwestern Bell

Southwestern Bell states that, "[f]or a large part of our services, wire centers are an inappropriate unit of measurement." It generally analyzes data on a state-wide basis, unless particular state commissions require wire center reporting (which some do for trouble reports and installation performance).

9. United

United monitors performance on a company/state basis. Results are collected via a mechanized reporting system and are published and distributed to management monthly.

10. U S West

U S West tracks residential and business trouble reports through a mechanized system, and also conducts customer satisfaction surveys (it does not disclose whether customers in each wire center are surveyed). It relies on several mechanized systems to track installation and repair of residential service; these data are tabulated by state and "include all wire centers." For non-residential services, U S West does not measure standard installation intervals; rather, it measures the percent of time installation commitments are met, and also tracks repair intervals. It does state at what level these data are collected and reported.

Unlike the other LECs, U S West generates reports on the transmission quality criteria in Section 1, Question 4 on a central office, state, and company-wide basis. It does not currently have measurements in place for bit error rate standards, but states that such measurements are under development. It does measure availability and outage duration, but does not state the geographic level at which these data are collected and reported. Compliance reports for trunk blockage are produced at the state level, while switch downtime information is collected for each central office.

Question 2: **What procedures do you use to ensure that individual wire centers comply with your internal quality standards? Do you have procedures designed to give special attention to rural areas?**

1. Ameritech

Performance is monitored monthly (although Ameritech does not say whether data from each wire center are examined). Ameritech employs 4 full-time auditors assigned to wire center audits, and an additional 5 auditors provide expertise as required. The purpose of audits is to "evaluate internal controls relating to...administration, maintenance, and security."

Ameritech "does not designate or establish any different measurement procedures or quality of service objectives on the basis of rural versus metropolitan areas."

2. Bell Atlantic

Other than for trunk blockage and switch downtime, results for individual wire centers are not specifically tracked (although these data are generated and problems assertedly are noted and corrected). Bell Atlantic does not audit each end office, but does engage in "comprehensive" audits of a statistically valid sample of end offices, the results of which are required to local management. There are no special standards or procedures applicable to rural areas.

3. BellSouth

Tracking of internal standards includes a district-level "Softspot" report which identifies districts that have not missed a performance objective but are within a specified range of it for 2 consecutive months. Reports on individual trunk groups are produced weekly. BellSouth states that it "performs various audits and inspections," including "performance reviews based on wire center measurement results."

Rural and urban areas are treated the same, so there are no procedures designed to give special attention to rural areas.

4. GTE

Quality Assurance Operational Review teams select wire centers at random and perform quality audits on central offices. In addition, monthly region-wide reports examine other aspects of service quality. GTE treats rural and urban areas the same and has no special procedures applicable to rural areas.

5. Nevada Bell

Nevada Bell periodically checks on "commitment scripts" in the Loop Maintenance Operating System, monitors by percent commitment met and receipt-to-clear duration on the Daily Morning Report, and monitors by percent commitment met on the Provisioning Report. It also utilizes trend analysis of individual switch performance, trunk transmission

testing, and review of other diagnostic data. It does not, however, employ audits or inspections.

Rural areas receive installation/repair visits on a scheduled basis (one to three days per week) to compensate for increased travel time by personnel.

6. NYNEX Companies

The NYNEX companies use both internal and external (customer satisfaction) measurements to assess performance. They use periodic audits, operational reviews, and "Conformity Reviews," but do not explain whether these processes extend to each wire center. They also state that their procedures and standards are uniform for rural and urban areas.

7. Pacific Bell

Pacific Bell analyzes reported data, employs internal audits by its Comptroller group, and conducts customer satisfaction surveys. It does not state whether these tools reflect performance in individual wire centers. Pacific Bell has no special procedures for rural areas; it employs the same standards in all service areas and says that survey results reveal that rural customers are somewhat more satisfied than non-rural customers.

8. Southwestern Bell

Southwestern Bell performs audits regarding trouble reports, billing performance, and customer perception. None of these focuses on wire centers, "but focus instead on the overall service quality at a higher level of aggregation..."

9. United

The United Companies "gather data to identify problem or weak areas and to make corrective action as needed," presumably through the Local Measurement Plan and other reporting systems. United also conducts periodic audits to ensure that action is taken in response to indications of problem.

The United Companies "do not have special procedures to provide selective attention to a particular location."

10. U S West

According to U S West, "[p]eriodic results are published by the staff on a state level for use by line managers. Reviews are performed, as required to insure compliance with standards." In addition, "personnel are expected to review and ensure compliance to U S West internal standards by individual central office on an ongoing basis. In extreme situations, the central office personnel may request assistance in the form of an audit or inspection to identify and resolve non-compliance to our standards."

U S West "does not have procedures designed to give special attention to rural areas," but it has embarked on a facilities modernization program that is detailed in its submission.

Question 3: **For questions 1 through 8 in Section I above, please report the location of each wire center that did not comply with the relevant internal standard in the second quarter of 1991.**

1. Ameritech

Ameritech is "in compliance with internal standards for customer satisfaction, switch performance, service provisioning, and maintenance performance in all areas but one. Ohio Bell's Major Business result through June 1991 was 95.5%, which is outside their objective of 96.0%.

In the second quarter of 1991, Ameritech experienced 4 unscheduled switch outages in Illinois, totalling 41 minutes; 1 in Indiana, lasting 2 minutes; 5 in Michigan, totalling 25 minutes; 8 in Ohio, totalling 43 minutes; and 2 in Wisconsin (one lasting 279 minutes, the other lasting 4.6 minutes).

2. Bell Atlantic

Bell Atlantic says that it complied with all internal standards, but admitted that it does not measure most criteria on a wire center-specific basis and that it does not routinely test transmission quality. In April, 98.8% of trunk groups were within the servicing threshold; in May, 99.3%; and in June, 99.1%.

Switch outages: From April through June, the Bell Atlantic companies experienced 39 unscheduled switch outages:

- C&P of D.C. experienced 1 unscheduled switch outage lasting 186.4 minutes.
- C&P of Maryland experienced 3 unscheduled switch outages totalling 29.6 minutes.
- C&P of Virginia experienced 5 unscheduled switch outages totalling 317.7 minutes (one outage accounted for 297 minutes).
- C&P-West Virginia experienced 12 unscheduled switch outages totalling 820.3 minutes, including three that lasted more than 200 minutes.
- New Jersey Bell experienced 7 unscheduled switch outages totalling 406 minutes, including one of 120 minutes and one of 167 minutes.
- Bell of Pennsylvania experienced 9 unscheduled switch outages totalling 814.6 minutes, including one of 124 minutes, one of 209 minutes, and one of 360 minutes.
- Diamond State experienced two unscheduled switch outages totalling five minutes.

3. BellSouth

BellSouth does not measure compliance at the wire center level for most service quality criteria. It states, however, that it met all internal standards for all services (measured in large part through customer satisfaction surveys), with the exception of repair time in South Carolina for Feature Groups B, C, and D, which averaged longer than the internal objective of 5.5 hours.

Switch outages. In the second quarter, BellSouth experienced 1 unscheduled outage in Alabama, lasting 30 minutes; 4 in Florida, lasting 561 minutes; 7 in Georgia, lasting 280 minutes; 1 in Kentucky, lasting 35 minutes; 1 in Louisiana, lasting 77 minutes; 1 in Mississippi, lasting 186 minutes; 4 in North Carolina, lasting 114 minutes; 3 in South Carolina, lasting 26 minutes; and 2 in Tennessee, lasting 11 minutes.

4. GTE

Residential installation intervals. Of 2,640 GTE exchanges, two did not meet PSC standards for installation of residential service in the second quarter (one in California and one in Ohio).

Residential repair intervals. 34 GTE exchanges (29 in Georgia) did not meet PSC-established residential repair intervals in the second quarter

Non-residential repair intervals. In what GTE terms an unusual situation, GTE California did not meet repair interval standards for switched access, WATs/800, high capacity and special access in California in the second quarter, although it did meet those intervals in the first quarter and in July and August. GTE Hawaii did not meet the interval standard for WATS/800.

Trunk blockage. One trunk group in each of four states failed to meet trunk blockage standards in the second quarter.

Switch downtime. In the second quarter of 1991, GTE experienced 157 instances of unscheduled switch down-time, broken down as follows:

Alabama. 2 outages totalling 11 minutes
Arkansas. 1 outage lasting 2 minutes
California. 18 outages totalling 263 minutes
Florida. 13 outages totalling 158 minutes
Georgia. 3 outages totalling 10 minutes
Hawaii. 9 outages totalling 225 minutes
Idaho. 1 outage lasting 9 minutes
Illinois. 10 outages totally 196 minutes
Indiana. 3 outages totalling 224 minutes, with one lasting 220 minutes
Iowa. 5 outages totalling 207 minutes
Mississippi. 12 outages totalling 170 minutes
New Mexico. 2 outages , one lasting 62 minutes and the other lasting 2 minutes

North Carolina. 2 outages totalling 13 minutes
Ohio. 19 outages totalling 1021 minutes, with the three longest lasting 360, 300, and 260 minutes
Oklahoma. 4 outages totalling 353 minutes, including one of 183 minutes and one of 105 minutes
Oregon. 6 outages totalling 185 minutes
Pennsylvania. 4 outages totalling 31 minutes
South Carolina. 9 outages totalling 304 minutes, including one lasting 168 minutes
Texas. 13 outages totalling 476 minutes, including three lasting 105 minutes each.
Washington. 11 outages totalling 536 minutes
Wisconsin. 10 outages totalling 398 minutes, including one of 156 minutes and one of 153 minutes.

5. Nevada Bell

Nevada Bell met all internal standards (which are not, however, generally measured on a wire center basis), except the following:

Installation interval. For major accounts, Nevada Bell met established intervals 96.8% of the time, rather than the required 98%. The missed commitments included appointments missed for customer reasons.

Repair interval. Major accounts: 93.7% rather than 98%.. Small business: 91.7% rather than 95%. Residence: 91.3% rather than 94%. Performance includes appointments missed for customer reasons.

Transmission quality. Nevada Bell's trunk transmission testing system failed in November 1990. Total resumption of the testing program will not be complete until November 1, 1991. Manual testing indicates no signs of degradation.

Switch down-time. In the second quarter, Nevada Bell experienced three instances of unscheduled switch downtime totalling 151 minutes.

6. NYNEX Companies

The NYNEX companies do not measure compliance at the wire center level, with the exception of trouble reports per hundred access lines. (This criterion is actually measured at the switch level; a single wire center may have several switches.) Eighty-eight wire centers in New York exceeded the standard of 7.5 reports per hundred during one or more months of the second quarter. Four wire centers in Massachusetts exceeded the standard of 4.5 reports; one in Rhode Island exceeded the 8.4 report standard; six in Vermont exceeded the standard of 5.0 reports; and no wire centers in Maine or New Hampshire failed to comply.

Switch downtime. During the second quarter, New York Telephone experienced 11 unscheduled switch outages ranging from 5 to 135 minutes, for a total of 472 minutes; New England experienced six unscheduled switch outages in Massachusetts ranging from 4.5 to 480 minutes, for a total of 855.5 minutes.

7. Pacific Bell

Trouble reports. Six Pacific Bell "maintenance centers" (aggregations of wire centers) exceeded standard for reports per hundred access lines in the second quarter.

Installation and repair. Pacific Bell complied with standards for residential installation and repair. For other services, two maintenance centers did not meet the installation standard for switched access; eight did not meet the repair standard for voice grade; six did not meet the repair standard for WATS/800; six did not meet the repair standard for DDS, three did not meet the repair standard for "special services"; and two did not meet the repair standard for High Capacity service.

Transmission quality. Pacific Bell does not measure transmission quality except in response to trouble reports.

Trunk blockage. In April and June, one trunk group exceeded the blockage threshold.

Switch downtime. During the second quarter, 19 switches experienced unscheduled outages lasting more than two minutes. The duration of these outages ranged from 2 to 403 minutes, and the total down-time was 1635 minutes.

8. Southwestern Bell

Southwestern Bell states that "[d]ue to the normal volatility of individual results for small segments of business like wire centers, SWBT establishes internal objectives ... at the state level only .... None of SWBT's states exceeded the state-wide objectives for any service quality measurement for the second quarter of 1991.

SWBT does disclose wire center data for those states that require reporting at this level. In Arkansas, one wire center exceeded the standard for trouble reports per 100 lines, and 24 (of 135) exchanges failed to meet the PSC's requirements that 95% of service outages be restored within 24 hours — an objective that SWBT terms "very aggressive." One wire center in Missouri did not meet the trouble report standard, and two did not meet the repair commitment standard. In Oklahoma and Texas, six wire centers in each state did not meet the trouble report standard.

Switch downtime. During the second quarter, Southwestern Bell experienced unscheduled outages as follows: 4 switches in Arkansas, totalling 908 minutes; 2 switches in Kansas, totalling 23 minutes; 5 switches in Missouri, totalling 229 minutes; and 2 switches in Texas, totalling 19 minutes.

9. United

Four United wire centers in Ohio did not meet installation standards, and one each in Florida, Missouri, and Ohio did not meet repair standards.

In the second quarter of 1991, United experienced 37 unscheduled switch outages, broken down as follows:

Florida. 13 outages totalling 410 minutes, with the longest lasting 120 and 109 minutes.
Indiana. 3 outages totalling 330 minutes, with the longest lasting 216 minutes
Kansas. 1 outage lasting 120 minutes
Missouri. 2 outages, one lasting 405 minutes and the other lasting 20 minutes
North Carolina. 3 outages totalling 31 minutes
New Jersey. 4 outages totalling 406 minutes, with the longest lasting 229 and 141 minutes
Ohio. 2 outages, one lasting 312 minutes and one lasting 15 minutes
Pennsylvania. 4 outages totalling 823 minutes, with the longest lasting 710 and 155 minutes
South Carolina. 1 outage lasting 8 minutes
Texas. 3 outages totalling 179 minutes
Wyoming. 1 outage lasting 200 minutes

10. U S West

Trouble reports. All fourteen U S West states failed to meet the carrier's standard of 3.0 reports per 100 residential lines, with results ranging from 3.01 in Oregon to 4.67 in New Mexico. (It is worth noting that U S West's standard is aggressive, compared to the other carriers.)

Residential installation and repair. Seven states failed to meet US West's residential service installation objective, and four states did not meet the repair objective.

Transmission quality. U S West is meeting its transmission quality standards in all areas except for balance, where 7 central offices in Arizona, 20 in Colorado, 4 in New Mexico, 5 in Utah, and 6 in Wyoming, are non-compliant. Almost all of the non-compliant offices contain step-by-step switches.

Central office transmission quality. Fifty-three of US West's 1862 central offices did not meet transmission quality standards, including 6 in Arizona, 9 in Colorado, 2 in Idaho, 7 in Iowa, 2 in Montana, 6 in Minnesota, 2 in Nebraska, 1 in New Mexico, 2 in North Dakota, 1 in South Dakota, 6 in Utah, 2 in Oregon, 6 in Washington, and 1 in Wyoming.

Trunk Blockage. U S West met internal standards for Category A trunks (undefined) in all fourteen states. In four states — Colorado, South Dakota, Montana, and Wyoming, blockage exceeded standards for Category B trunks (also undefined).

Switch downtime. Two of U S West's 1862 central offices experienced downtime of greater than two minutes in the second quarter: a switch in Telluride, Colorado was down for 18.5 minutes due to a software problem during a switch upgrade, and a switch in Los Alamos, New Mexico was down for 165 minutes due to a lighting storm that revealed a grounding problem.